

2007-08 Idaho 8th Grade Direct Mathematics Assessment

<h1 style="font-size: 4em; margin: 0;">806</h1>	<p style="text-align: center; font-weight: bold; margin: 0;">STUDENTS DO NOT WRITE IN THIS AREA</p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="text-align: center;"> <p>ROUND 1</p> <p>T: _____ R: _____</p> <div style="border: 1px solid black; width: 80px; height: 30px; margin: 5px auto;"></div> </div> <div style="text-align: center;"> <p>ROUND 2</p> <p>T: _____ R: _____</p> <div style="border: 1px solid black; width: 80px; height: 30px; margin: 5px auto;"></div> </div> </div> <p style="text-align: right; margin-top: 10px;">FINAL</p>
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how you solved the problems on this
show how you set up the math.

- 1) Michelle wants to buy a CD player at Marty's Electronics for \$87.00, a case for \$14.50, batteries and 4 CD's for \$11.00 each.

- a) How much will it cost Michelle to buy what she wants at Marty's Electronics, including a 6% sales tax? Show or explain how you found your answer.

$$\begin{array}{r}
 87.00 \\
 14.50 \\
 44.00 \\
 11.00 \\
 11.00 \\
 11.00 \\
 + 11.00 \\
 \hline
 150
 \end{array}$$

$$\begin{array}{r}
 25 \\
 6 \overline{) 150} \\
 \underline{12} \\
 30 \\
 \underline{30} \\
 0
 \end{array}$$

Minimal development of basic skills.

$$\begin{array}{r}
 150 \\
 25 \\
 \hline
 175
 \end{array}$$

First You have to add them all together get the answer. Divide the answer by the sale tax then add the answer to the sale tax

- b) If Michelle saves \$7.50 a week, how many weeks will it take her to have enough money to buy everything she wants? Show or explain how you found your answer.

$$\begin{array}{r}
 10 \text{ weeks}
 \end{array}$$

You add 7.50 till you get 175

- c) Michelle receives \$30.00 for her birthday. This is what fraction of the total cost? Show or explain how you found your answer.

Minimal evidence of understanding of situations.

$$\begin{array}{r}
 30 \quad 750 \\
 + \quad 30 \\
 \hline
 780
 \end{array}$$

$$\begin{array}{r}
 175 \\
 780
 \end{array}$$

Fraction total cost

You just put 175 over 780. 3 get 780 by adding 30 to 750

- d) Michelle has a coupon for 15% off her purchases. With this discount, what would her CD player, case, batteries, and 4 CD's cost before sales tax? Show or explain how you found your answer.

175 before sale tax

You add all of the items together

Read problems 2, 3, 4, and 5 on this and the next two pages.
 Select three problems to answer. Answer ALL of the parts of the three problems you select to answer.
 Cross out the one problem that you do not choose to answer.

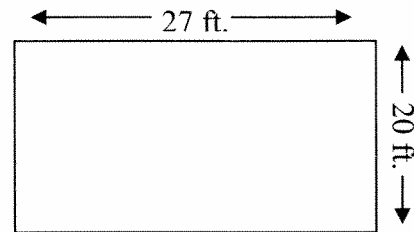
- 2) Sarah has a garden that is 27 ft. long and 20 ft. wide.

- a) What is the perimeter of the garden?

Show or explain how you found your answer.

94 ft.

You add all of the feet together



27
27
20
20
94

- b) What is the area of the garden?

Show or explain how you found your answer.

290000 is the area of the garden

27
x 20
540
540

540
x 20
10800
10800

10800
x 27
75600
216000
290400

multiplied
27
x 20
540
multiplied
540
x 20
10800

- c) Sarah wants to place a block border around the outside edges of her garden. If each block is 6 in. by 6 in., how many blocks will she need to complete the border? Show or explain how you found your answer.

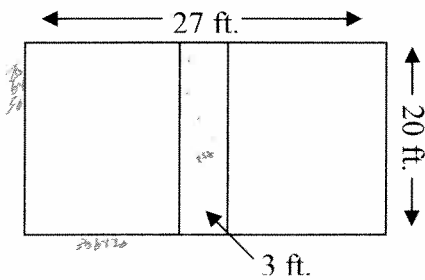
Lack of process development.

290400
x 6
1742400

1795400 how many blocks she needs

multiplied
290400 by 2

- d) Sarah would also like to use the same size blocks to place a path down the center of the garden. The path will be 3 ft. wide. How many total blocks will she need for the border and the path? Show or explain how you found your answer.



1620 total blocks she will need

multiplying
3 x 27 = 81
then 81 x 20 = 1620

Minimal problem-solving strategies.

- 3) The following table shows scores for students in Mr. Holverson's math class.

Students Test Scores

Name	Test 1	Test 2	Test 3	Test 4
Joe	87	82	90	196
Su-ling	94	89	90 + 1	78
Donna	62	74	95 + 1	92
Blake	87	79	85	+1 88
Carlos	78	79	85 + 1	84

- a) Find the **mean** (average), **median**, and **mode** for Test 3. Show or explain how you found your answers.

mean = 89
median = 95
mode = 90, 85

Development
toward
proficiency of
basic skills.

median I just
found the one
in the middle

mode I found the
one that was on the
test most

to get the mean
I just added all
of the numbers in
test 3 and then
divided I by how
many numbers there
were

- b) What is the mean of Joe's four test scores? Show or explain how you found your answer.

1706 / 4 all of Joe's test scores

I added all of Joe's
test scores together

Minimal use of basic thinking skills.

- c) If a fifth test is given, what score must Joe get to have an overall average of at least 90? Show or explain how you found your answer.

he should get at least
a 90%

Minimal evidence of
understanding of situation.

I found my
answer by
looking at his
scores that get
better each time.

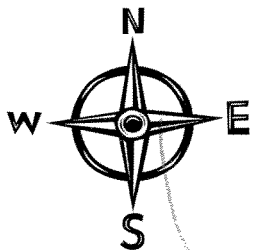
- d) Which test was the easiest for the class? How do you know? Show or explain how you found your answers.

Test 2 was the easiest for
all of Joe's class

I found my answer
by comparing
the test scores
and test 2 was
the easiest

- 4) Simon and his sister wanted to see how long it would take to walk all the way around the department store parking lot near their home. Starting in one corner of the lot, they walked east for 156 yards. They turned south and walked for 200 yards, then walked 64 yards west. Next they went 112 yards north, 92 yards west, and 88 yards north.

a) Draw a diagram of the path they traveled and label all the distances.



b) How many total **yards** did they walk? How many total **feet** did they walk? *Show or explain how you found your answers.*

c) If they walked at a constant rate of four feet per second without stopping, how long did their walk take? *Show or explain how you found your answers.*

- 5) Soft drinks come in three sizes at the movie theater: small, medium, and large. The large is twice the size of the medium. The small is $\frac{1}{3}$ the size of the large.

a) Let **m** represent the size of the medium drink. Write algebraic expressions in terms of **m** to represent the small and large drinks. *Show or explain how you found your answers.*

$$m + 3 + 1$$

Inadequate mathematical vocabulary,
use of symbols and communication skills.

I just took
the letters out
of the problem

b) If the medium drink is 18 ounces, how many ounces will the small drink hold? How many ounces will the large drink hold? *Show or explain how you found your answers.*

$$\begin{aligned} \text{small} &= 13 \text{ ounces} \\ \text{large} &= 36 \text{ ounces} \end{aligned}$$

I like to take a chance
on this one I just
subtracted 18 to get 13
then added 18 to 13 to get 31

c) The small drink costs \$1.80. The medium drink costs \$2.50. The large drink costs \$4.50. What is the cost per ounce for each size? *Show or explain how you found your answers.*

$$1.78 \text{ per ounce}$$

Inappropriate process.

I subtracted
4.50 from 2.50
to get 2.00
then I subtracted
1.80 from
2.00 to get 0.20